Attorney Docket No.: VN-169RI

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: Rangan, et al.	)	
Serial No.: 09/173,582	)	
Filed: October 15, 1998	)	Examiner: Ton, D.
For: DATA COMMUNICATION NETWORK WITH TRANSFER PORT, CASCADE PORT AND/OR FRAME SYNCHRONIZING SIGNAL	)	Group Art Unit: 2732

Assistant Commissioner for Patents
Washington, D.C. 20231

SUBMISSION OF DECLARATIONS AND SUBSTITUTE SPECIFICATION PAGES

Sir:

In response to a telephone communication from the Examiner, enclosed herewith is a new inventor declaration (executed by two of the three inventors) that in greater detail explains the error upon which the above-identified reissue is based. A declaration of Alan Loudermilk accompanies the inventor declaration, which explains the diligent, but unsuccessful, efforts, to locate the third co-inventor, Richard Thaik.

Applicant requests that the inventor declaration submitted herewith be accepted by the U.S. Patent Office, in view of the diligent efforts made to locate Mr. Thaik.

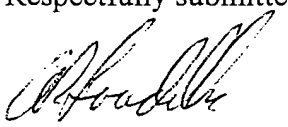
Also at the request of the Examiner, Applicant is submitting herewith substitute specification pages for columns 31 and 32. This resubmission was necessitated by the certificate of correction issued for the original patent; the newly submitted column 32 has been changed to reflect the change in the certificate of correction.

No new matter has been added by this submission. This application is submitted to be in condition for allowance and such is respectfully requested.

Applicant's attorney requests an opportunity to discuss this case with the Examiner by way of a telephone or in-person interview in order to address any additional questions, etc., that the Examiner may have.

Please charge any additional fees due, or credit any overpayment, to Deposit Account No. 50-0251.

Respectfully submitted,



Alan R. Loudermilk
Registration No. 32,788
Attorney for Applicant(s)

December 10, 2001
10950 North Blaney Ave., Suite B
Cupertino, CA 95014
408-342-1866

I hereby certify that the foregoing is being deposited with the U.S. Postal Service, postage prepaid, to the Commissioner of Patents and Trademarks, this 10th day of December, 2001.

Karen A. Rogers
Karen A. Rogers

PTO/SB/51 (02-01)
Approved for use through 01/31/2004. OMB 0651-0033
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

REISSUE APPLICATION DECLARATION BY THE INVENTOR	Docket Number (Optional) VN169RI

As a below named inventor, I hereby declare that:
My residence, mailing address and citizenship are stated below next to my name.
I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is described and claimed in patent number 5,5166,169, granted October 15,1996, and for which a reissue patent is sought on the invention entitled Data Communication Network with Transfer Port, Cascade Port and/or Frame Synchronizing Signal, the specification of which

☐ is attached hereto.

☒ was filed on October 15,1998 as reissue application number 09/173,582 and was amended on 5/17/00 (If applicable).

I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.
I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56.
I verily believe the original patent to be wholly or partly inoperative or invalid, for the reasons described below. (Check all boxes that apply.)

☐ by reason of a defective specification or drawing.

☐ by reason of the patentee claiming more or less than he had the right to claim in the patent.

☐ by reason of other errors.

At least one error upon which reissue is based is described below. If the reissue is a broadening reissue, such must be stated with an explanation as to the nature of the broadening:

by reason of claiming only the subject matter of claims 1-15, which is less than the full right to claim in the original application. Accordingly, new claims 16-141 were added. For example, comparing claim 16 to original claim 14, claim 14 was limited to a "receive memory device," a "transmit memory device," a "plurality of receive datapaths," and a "plurality of transmit datapaths." As the originally-filed specification makes clear, this was less than Applicant was entitled to claim, and therefore new claim 16, which parallels original claim 14, recites a "receive memory," a "transmit memory," "one or more receive datapaths," and "one or more transmit data paths." In addition, Applicant, in combination with independent claim 16, was entitled to claim the subject matter of dependent claims 17-57, but did not do so in the original application. Similar errors of claiming less than Applicant was entitled to claim can be seen from the subject matter of new claims 58-141, which include subject matter that Applicant was entitled to claim but did not in the original application.

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(REISSUE APPLICATION DECLARATION BY THE INVENTOR, page 2)

Docket Number (Optional): VN169 RI

All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant. As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith.

Name(s)	Registration Number
Alan R. Loudermilk	32,788

Correspondence Address: Direct all communications about the application to:

☐ Customer Number [ ] → *Place Customer Number Bar Code Label here*

Type Customer Number here

☒ Firm or Individual Name	Loudermilk + Associates				
Address	10950 N. Blaney Avenue				
Address	Suite A				
City	Cupertino	State	CA	Zip	95014
Country	USA				
Telephone	(408) 342-1866	Fax	(408) 342-1868		

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this declaration is directed.

Full name of sole or first inventor (given name, family name)	GEETHA N.K. RANGAN		
Inventor's signature	Geetha N.K. Rangan	Date	Dec 06, 01
Residence (SAME)	U.S.A (CALIFORNIA)	Citizenship	INDIA
Mailing Address	21086, MANITA CT., CUPERTINO, CA - 95014		
Full name of second joint inventor (given name, family name)			
Inventor's signature		Date	
Residence		Citizenship	
Mailing Address			
Full name of third joint inventor (given name, family name)			
Inventor's signature		Date	
Residence		Citizenship	
Mailing Address			

☐ Additional joint inventors are named on separately numbered sheets attached hereto.

CANCELLED

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(REISSUE APPLICATION DECLARATION BY THE INVENTOR, page 2)

Docket Number (Optional): VN169RI

All errors corrected in this reissue application arose without any deceptive intention on the part of the applicant. As a named inventor, I hereby appoint the following attorney(s) and/or agent(s) to prosecute this application and transact all business in the United States Patent and Trademark Office connected therewith.

Name(s)	Registration Number
Alan R. Loudermilk	Reg. No. 32,788

Correspondence Address: Direct all communications about the application to:

☐ Customer Number [ ] → *Place Customer Number Bar Code Label here*

Type Customer Number here

☒ Firm or Individual Name	Loudermilk & Associates				
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Address	Suite B				
City	Cupertino	State	CA	Zip	95014
Country	U.S.A.				
Telephone	(408) 342-1866	Fax	(408) 342-1868		

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application, any patent issuing thereon, or any patent to which this declaration is directed.

Full name of sole or first inventor (given name, family name): Geetha N. K. Rangan

Inventor's signature	Date
Residence	Citizenship
Mailing Address	

Full name of second joint inventor (given name, family name): Debra J. Worsley

Inventor's signature [signature]	Date 11/25/01
Residence 1723 W. Hedding St. San Jose, CA 95126	Citizenship USA
Mailing Address Same	

Full name of third joint inventor (given name, family name): Richard Thaik

Inventor's signature	Date
Residence	Citizenship
Mailing Address	

☐ Additional joint inventors are named on separately numbered sheets attached hereto.

Attorney Docket No.: VN169RI

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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	)	Group Art Unite: 2732
For: DATA COMMUNICATION NETWORK WITH TRANSFER PORT, CASCADE PORT AND/OR FRAME SYNCHRONIZING SIGNAL	)	

Assistant Commissioner for Patents
Washington, D.C. 20231

DECLARATION OF ALAN R. LOUDERMILK

I, Alan R. Loudermilk, am the patent attorney prosecuting this reissue application on behalf of the Applicant.

In response to a telephone call from the Examiner, a new declaration explaining in greater detail the "at least one error upon which reissue is based" was prepared (as will be apparent from the original declaration and the newly-submitted declaration, the at least one error is Applicant claiming less than Applicant was entitled to claim, which is described in the new declaration in detail and is readily apparent from a comparison of the originally-issued claims with the claims added in this reissue). This new declaration was signed by two of the three co-inventors, Geetha N.K. Rangan and Debra J. Worsley. I have been unable to locate the third named inventor, Richard Thaik.

This declaration is provided to explain that I have made a diligent effort in attempting to locate Richard Thaik. He is no longer employed with the former assignee of the patent that is being reissued (National Semiconductor), and he is no longer employed by his last known

employer (Cisco Systems). It was at Cisco Systems in San Jose that I last met Mr. Thaik in May 1999, which was at the time of execution of the originally-submitted declaration. My recent efforts to location Mr. Thaik include the following.

I made numerous calls to Cisco System and was unable to determine any information regarding his current whereabouts. A letter sent to Cisco Systems was returned to sender. Responses were not received to the letters sent to his last two (believed) home addresses (1566 Cleo Springs Drive, San Jose CA 95131, and 4325 Renaissance Drive, San Jose, CA 95134). Calls to directory assistance were unsuccessful. Various Internet-based searches were not successful. I attempted to track Mr. Thaik down through Purdue University, from which he graduated and to which he has contributed over the years, but the contact information that he maintained with Purdue University had not been updated.

Based on the previously friendly and cooperative interaction that I had with Mr. Thaik in 1999, it would seem that he has moved to an unknown location and has not received, or is not in position to receive, the correspondence that has been sent to him. Accordingly, and in view of the foregoing, Applicant is submitting a new Declaration executed by the remaining co-inventors and requests that this new Declaration be accepted by the US Patent Office.

I declare that all statements made herein of my knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United Sates Code, and that such willful false statements may jeopardize the validity of the reissue application or any patent issued thereon.

Respectfully submitted,

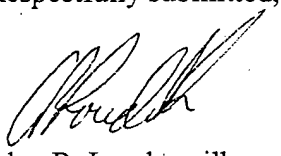

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TABLE IX-continued

Mode 1 (Mixed Mode)
Data Buffer Loading Sequence According to Buffer Address

Receive Buffer				Transmit Buffer	
Buffer Address	Data in Buffer Location	Buffer Address	Data in Buffer Location	Buffer Address	Data in Buffer Location
20H	filler	5f7H	Port 7-896	5faH	TSI ring Slot 1530
21H	Port 1-83	5f8H	Port 8-896	5fbH	TSI ring Slot 1531
22H	Port 2-83	5f9H	Port 9-896	5fcH	TSI ring Slot 1532
23H	Port 3-83	5faH	Port 10-896	5fdH	TSI ring Slot 1533
24H	Port 4-83	5fbH	Port 11-896	5feH	TSI ring Slot 1534
25H	Port 5-83	5fcH	Port 12-896	5ffH	TSI ring Slot 1535
26H	Port 6-83	5fdH	Port 13-896	600H	TSI ring Slot 1536
27H	Port 7-83	5feH	Port 16-8247		
28H	Port 8-83	5ffH	Port 16-8248		
29H	Port 9-83	600H	filler		

TABLE X

Signal Name	Description
RXI+,RXI−	Twisted pair receive inputs
TXOP−,TXO−, TXO+,TXOP+	Twisted pair transmit outputs
TXD	Transmit Data input. Serial NRZ data input from the controller.
TXE	Transmit Enable
TXC	Transmit Clock. A 10 Mhz clock derived from the 20 Mhz ECLK input.
COL	Collision Detect output. Generates an active high signal when the transceiver function of the physical layer portion detects a collision
RXD	Receive Data Output
RXC	Receive clock
CRS	Carrier Sense
ECRS	Early carrier sense. In mixed configuration, this signal goes active when valid data has reached the input of the Ethernet receive FIFO
LCLK	Link Clock. Used by the transmit circuits as the bit level clock for data encoding upon the isochronous/ethernet link.
ECLK	Ethernet clock. Used to encode data when the physical layer portion is operating in 10 Base T mode.
IRFS	Isochronous Receive frame synch. This output marks the beginning of a receive frame cycle.
IRXD	Isochronous receive data
IRXE	Isochronous receive enable
IFR	Isochronous Frame reference
ITFS	Isochronous transmit frame synch. Marks the beginning of a transmit frame cycle.
ITXD	Isochronous Transmit data

What is claimed is:

1. In a data communication network for communicating data between a plurality of data stations over a communications medium under control of a processor which outputs a plurality of control signals, apparatus comprising:

a receive memory means and a transmit memory means;

a receive datapath corresponding to each data station coupled between said communications medium and said receive memory means for providing at least some data received over said communications medium to said receive memory means;

a transmit datapath corresponding to each data station coupled between said transmit memory means and said communications medium for providing at least some data from said transmit memory means to said communications medium;

each said receive datapath including;

a deserializer configured to receive serial data from said communications medium and output at least a portion of said received serial data in parallel;

means for selectively transmitting, in response to one of said plurality of control signals, said data output by said deserializer to said receive memory means;

each said transmit datapath including a serializer configured to receive parallel data and output serial data.

2. Apparatus, as claimed in claim 1, wherein each of said receive memory means and said transmit memory means is a buffer.

3. Apparatus, as claimed in claim 1, wherein said data received over said communications medium includes status data indicating at least a status of port activities.

4. Apparatus, as claimed in claim 1, wherein said data received over said communications medium comprises status data including at least a status of interrupts of at least one of said data stations and wherein each said receive datapath includes a demultiplexer coupled between said communications path and said deserializer for diverting said status data to a first location prior to receipt of serial data in said deserializer.

5. Apparatus, as claimed in claim 4, wherein said first location comprises a first register.

6. Apparatus, as claimed in claim 5, wherein said apparatus is contained in a first network data station, coupled, via said communications medium, to a plurality of other data stations and wherein said first register stores status data from all said other data stations which are connected to said first network data station.

7. Apparatus, as claimed in claim 1, wherein said transmit datapath includes means for generating at least one predetermined data pattern for transmission onto said communications medium.

8. Apparatus, as claimed in claim 7, wherein said means for generating includes means for generating a plurality of predetermined data patterns and means for selecting among said plurality of data patterns in response to one of said plurality of control signals.

9. Apparatus, as claimed in claim 1, wherein said data stations include at least first and second network data stations, and said apparatus is contained in said first network data station, which is coupled, via said communications medium, to a first plurality of other data stations and also coupled, by said apparatus, via said communications medium, to said second network data station which is coupled to a second plurality of data stations and wherein: